

EUROPEAN MARS SOCIETY COFERENCE

14-16th October 2016

The SPACELAND MARS-GRAVITY LABORATORY

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Since the dawn of spaceflight, less than 560 human beings have been flying in space: those women and men have given critical inspiration to untold numbers of entrepreneurs, inventors, ordinary citizens and entire new industries and science research communities; however, the overwhelming majority of the seven billion (and counting) inhabitants of Earth would never have the chance to fly and contribute to that drastic advancement of science, biomedicine and technology that only aerospace flights can support. And experiencing Mars seems an even more impossible target for almost anybody. Let us consider that our universe was formed as we know it now and it is further evolving due to gravity: our life exists thanks to it. Besides, microgravity and low-gravity not only can help colonize the outer space but also enable mankind to aim at a new range of discoveries in a myriad fields, ranging from progress in biomedicine and pharmacology to new materials thanks to low-gravity crystal growth and studies on fluid coalescence, from analysis on the aggregation of matter to a better understanding of star and galaxies formation and collaps; namely, all these phenomena are influenced or even driven by gravity or by its reduction of it.

In this light, since 2002 SpaceLand helps democratize the access to space through microgravity, Lunar and Mars gravity flights open to the public, on board special flight vehicles; through this program, the general public can be trained and qualified to experience Mars-gravity conditions without exiting our atmosphere, at the same time participating to major experimental programs in a rather inexpensive fashion, contributing to laying the foundations for a new home on the red planet, helping science centers and aerospace industry design and develop kinematic and dynamic systems which need to be

tested in actual conditions for Mars exploration purposes. As demonstrated with its world's youngest (11 year old) and world's oldest (93 year old) men and the first 100% disabled woman having flown in weightlessness for microgravity research activities (some commissioned by Nobel-Prize-winner's research group), SpaceLand has really opened "Space" to anybody, dropping the price of training and safely flying experiments in a research-friendly Mars-gravity environment to less than ten thousands EUR, including a comprehensive underwater low-gravity training program in its operational headquarters in the beautiful island of Mauritius. Thus, entering the SpaceLand program provides the opportunity to get trained and eventually board such a flying-laboratory to experiment in Mars-gravity conditions, to help prepare for future Mars settlements. This is the mission of the SpaceLand Mars-gravity flight program, where anybody can eventually participate to hand-on activities to study and test, for instance, reaction mechanisms, dynamic forces and momenta acting on rovers, drillers, penetrators, deployable booms and solar panels in actual 0.378 G (3,711 m/s²), as they were on Mars. Within such a context, the envisaged multimedia presentation will show unprecedented videos of non-professionals supporting such cutting-edge R&D projects, while living the fascinations of an out-of-this-world experience which is now open to anybody. Next open flight mission is slated in 3 months from now. This program will also be subject of an unprecedented 12-episode docu-fiction involving the general public on board a real Mars-gravity research flight, whose teaser will be presented at the Congress.